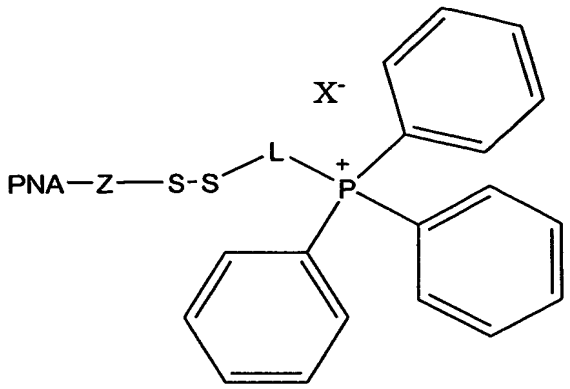
CLAIMS:

1. A conjugate of formula I



wherein L is a linker group, S-Z is a thiol-containing attachment group, X^- is an optional anion, and PNA is a peptide nucleic acid.

2. A conjugate according to claim 1 wherein L is ($C_1 - C_{30}$) alkylene or substituted ($C_1 - C_{30}$) alkylene.

3. A conjugate according to claim 2 wherein L is ($C_3 - C_{10}$) alkylene.

4. A conjugate according to claim 3 wherein L is butylene.

5. A conjugate according to any preceding claim wherein Z is selected so that S-Z is a cysteinyl, homocysteinyl or an aminothiol compound attached to a suitable linking group for linking to the PNA residue.

6. A conjugate according to claim 5 wherein the linking group for linking to the PNA residue is 8-amino-3,6-dioxanoic acid.

7. A conjugate according to any preceding claim wherein PNA is a PNA oligomer targeting either a unique region in both the mouse and human *PAX2* mRNA or mouse HNF4α.

8. A conjugate according to any preceding claim wherein PNA is TTCACACCCCCGTGCC, GTCCCAGACGGT or lys-GTCCCAGACGGT.

9. A conjugate according to any preceding claim wherein the PNA is attached to a molecular tag or reporter molecule.

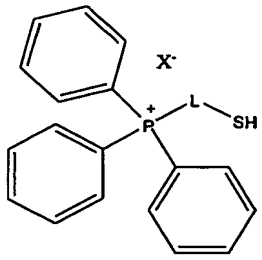
10. A conjugate according to claim 9 wherein the molecular tag or reporter molecule is an affinity label.

11. A conjugate according to claim 10 wherein the affinity label is streptavidin or biotin.

12. A conjugate according to claim 9 wherein the reporter molecule is fluorescein.

13. A method of synthesizing a TPP-PNA conjugate according to Formula I, as defined in claim 1, comprising:

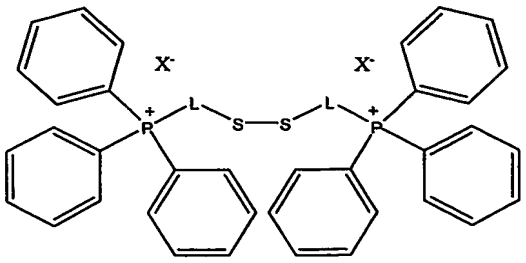
(c) incubating a compound of Formula II, wherein L and X are defined as above,



II

with an oxidant, to form the disulphide compound of Formula III

III



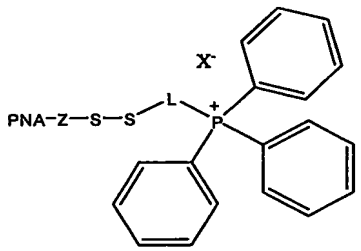
(b) reacting the compound of Formula III from step (a) with a compound of Formula IV

IV

PNA—Z—SH

wherein Z and PNA are defined as above, and wherein the compound of Formula IV has been preincubated with a non-thiol containing reducing agent, to form the TPP-PNA conjugate of Formula I.

I



14. A method according to claim 12 wherein L is (C_1 – C_{30}) alkylene or substituted (C_1 – C_{30}) alkylene.

15. A method according to claim 13 wherein L is (C_3 – C_{10}) alkylene.

16. A method according to claim 14 wherein L is butylene.

17. A method according to any preceding claim wherein Z is selected so that S-Z is a cysteinyl, homocysteinyl or an aminothiol compound attached to a suitable linking group for linking to the PNA residue.

18. A method according to claim 16 wherein the linking group for linking to the PNA residue is 8-amino-3,6-dioxanoic acid.

19. A method according to any preceding claim wherein PNA is a PNA oligomer targeting either a unique region in both the mouse and human *PAX2* mRNA or mouse HNF4α.

20. A method according to any preceding claim wherein PNA is TTCACACCCCCGTGCC, GTCCCAGACGGT or lys-GTCCCAGACGGT.

21. A pharmaceutical composition comprising a therapeutically effective amount of a compound of Formula I, as defined in claim 1, in combination with one or more pharmaceutically acceptable excipients, carriers or diluents.

22. A use of a compound of Formula I, as defined in claim 1, in the preparation of a medicament for the treatment of a disease or disorder that can be at least in part alleviated by antisense therapy.

23. A method of treating a patient with a disease or disorder that is susceptible to antisense therapy, which comprises the step of administering to said patient, a therapeutically effective amount of a compound of Formula I, as defined in claim 1.

24. A method of diagnosing a patient with a disease or disorder that is susceptible to antisense therapy, which comprises analyzing tissues from said patient using a compound of Formula I, as defined in claim 1.

25. A method of diagnosing a patient with a disease or disorder that is susceptible to antisense therapy, comprising incubating tissues and/or blood from said patient with a compound of Formula I, as defined in claim 1.

26. A method according to any one of claims 22 to 25 wherein the disease or disorder is selected from the group comprising bacterial infections, viral infections, cancer, metabolic diseases and immunological disorders.

27. A method according to any one of claims 22 to 25 wherein the disease or disorder is selected from the group comprising HIV infection, hepatitis C infection; melanoma, pancreatic adnocarcinoma, actue myeloid leukemia, myeloma, small cell lung cancer, prostate cancer, ovarian carcinoma, breast cancer, glioma; hypercholesterolemia and amyloid light chain amyloidosis.

28. A method of targeting PNA oligomers to non-mitochondrial sites or organelles within a cell, including the cytoplasm and/or the nucleus, using a compound of Formula I as defined in claim 1, said method comprising delivering the PNA oligomers across the plasma membrane, without promoting selective aggregation in the mitochondria of said cell.

29. A method for modifying gene expression by administering a compound of Formula I as defined in claim 1, to a cell.

30. A method for altering RNA function or processing by administering a compound of Formula I as defined in claim 1, to a cell.